

[FE-19-98](#) (document link)

SUMMARY FOR FE-19-98:
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Norfolk Southern Corporation

Location: Buechel, Kentucky

Region: Region 3

Month: July

Date: 7/01/98

Time: 2:50 a.m., EST

Data for Fatally Injured Employee(s)

Utility Employee

54 years old

30 years of service

Last rules training: February 1998

Last safety training: June 1998

Last physical: October 1996

Last efficiency tests: June 1998

Data for All Employees (Craft, Positions, Activity)

Craft: Transportation

Utility Employee working with switching team

Local Switcher K39K6

Engineer

Conductor

Utility Employee

Yard

Inland Container Maintenance Employee

Clerk

Activity: Switching

SUMMARY FOR FE-19-98 CONTINUED

POSSIBLE CONTRIBUTING FACTORS

EVENT

A Utility Employee was seriously injured during switching activities. He died of complications (cardiopulmonary arrest, probable pulmonary embolus, multiple injuries) two weeks later.

PCF No. 1

The incident occurred when the Utility Employee failed to avoid a close clearance structure (handrail) while riding a rail car.

PCF No. 2

The switching agreement between the Inland Container Company and the railroad required that prior to placing any structure which would interfere with the movement of rail traffic or create a close clearance hazard for railroad personnel, the railroad must be notified and assess the structure for potential hazards to railroad equipment and personnel. This was not done. The structure, in place for four months, was familiar to the Crew Members who switched at the facility almost every night. (This was not a usual duty for Utility Workers.) However, there is no indication of formal notification or safety briefings regarding the structure.

REPORT:	FE-19-98	
RAILROAD:	Norfolk Southern Corporation (NS)	
LOCATION:	Buechel, Kentucky (suburb of Louisville)	
DATE & TIME:	July 1, 1998, 2:50 a.m., EST	
PROBABLE CAUSE:	The Utility Employee was seriously injured (later dying) when he failed to avoid a close clearance structure while riding equipment.	
EMPLOYEE:	Occupation:	Utility Employee
	Age:	54 Years
	Length of Service:	30 Years
	Last Rules Training:	Feb. 20, 1998
	Last Safety Training:	June 11, 1998
	Last Physical:	Oct. 30, 1996
	Last Efficiency Tests:	June 12, 1998

CIRCUMSTANCES PRIOR TO THE ACCIDENT

The Utility Employee reported for duty at the Norfolk Southern Whitner Yard office facility near Buechel, Kentucky at 11:59 p.m. on June 30, 1998. He had received a statutory off-duty period of 16 hours, 55 minutes prior to reporting for duty. The Utility Employee, designated U04UK6, was assigned to work Tuesday through Saturday, with Sunday as a rest day. The Engineer and Conductor reported for duty as crew members on a local switcher designated K39K6 at the same location. This was a local switching job working the piggyback facilities and local industries in the Buechel area. Normal procedures required the utility person to attach to this local and assist in switching while the local was on duty. The employee protecting the utility position may then be called upon to assist other trains, such as through freights. A company vehicle is assigned to the utility position and is usually utilized by the crew members to move from place to place instead of riding on the rail cars or locomotive.

On the night in question, the individual assigned to the utility position was performing his normal duties. He had attached to the local switcher, and the crew had performed initial duties of switching the Buechel container facility, and had conducted a brake test on a train scheduled for subsequent pickup by another crew. At approximately 2:25 a.m., the crew arrived at the Inland Container Corporation to perform the nightly switch at that facility. Tracks leading to the

facility slightly descended and curved to the right. The structure was a large, metal fabricated building with an entry way served by a large overhead garage door.

The door opening did not present a close clearance hazard, as the door was large enough to accommodate a set of steps to the right of the railroad tracks for access to the platform. The platform and tracks were constructed so that the boxcar floor was usually level with the platform deck, and the left side of the tracks was protected by the exterior wall of the building. A gate over the rails provided access through a chain-link fence, protecting the facility grounds and buildings, approximately three rail car lengths from the door. A close clearance warning sign located on the fence just to the right of the railroad gate provided notice of the gate's proximity to the tracks, and another close clearance warning sign on the building to the right of the railroad entry door provided warning of the platform's proximity to the tracks.

The interior of the facility was well lit by rows of fluorescent lights suspended from the ceiling. The exterior, lit by dusk-to-dawn lights, was rather dark, and supplemental lanterns were necessary to ensure safe walking conditions. A set of five steps immediately to the right of the tracks when facing the building was used to ascend to the platform level, which comprised a poured slab of concrete providing a smooth and level walking surface. Five boxcars could be placed for loading along the dock facilities, and the floor of the facility was approximately level with the floor of the boxcar. Two dock plates, weighing approximately 600 pounds and constructed of heavy gage aluminum, were utilized to provide a safe access to the rail cars for personnel and forklift operators loading and unloading rail cars. When these dock plates were removed from their position between the rail cars and the platform, they were lifted out of position by a forklift operator and positioned back on the platform only far enough to allow clearance for the rail cars to exit the facility. A walking area along the dock between the edge of the platform and the rolls of stored paper was maintained at approximately nine feet wide to allow for easy passage of forklift traffic. Immediately to the right of the steps stood a paper shredding and bundling machine, protected by a series of upright metal posts to provide protection from forklift traffic on the adjacent platform. A handrail apparatus extended twelve feet along the platform from the north corner adjacent to the tracks. This apparatus was attached by welding it to the outside edge of the metal corner cap of the platform. A handrail was also attached to the right side of the steps for ascending.

Walking conditions outside the plant were good. The ballast connected to a gently sloping, grass-covered area extending about 10 to 12 feet and then leveling off for about 20 feet, beyond which a level, asphalt parking lot extended around the side and front of the facility.

On the night of the accident, the train crew members entered the facility separately. After properly lining the switches for the Engineer, the Conductor instructed him to proceed to the Inland Container facility and stop short of coupling to the rail cars. Using the company vehicle,

the Conductor and Utility Employee drove to a point just to the right of the railroad door opening and stopped the vehicle on the grassy area between the parking lot and the railroad tracks. The Engineer arrived with the locomotive, stopping short of a coupling outside the building.

Tracks in the area of the facility were oriented north to south. The Engineer was operating with the short hood end of the locomotive north. The control stand was on the east side, giving him an excellent view of the approach to the building and the five rail cars spotted inside the building due to the slight right hand curve. The Conductor and Utility Employee coupled to the rail cars after determining that the dock boards had been removed. The Conductor coupled the air hoses while the Utility Employee entered the building to check the car numbers. The Conductor joined the Utility Employee on the loading dock to determine what switching would be necessary.

While the Conductor and Utility Employee were walking along the dock checking the rail cars, the paper shredding machine malfunctioned and began spraying shredded paper along the dock area. A maintenance and cleanup crew arrived to repair the machine and clean up the dock area about 10 minutes later.

While they were cleaning up the shredded paper from the dock area, the Utility Employee continued toward the south end of the rail cars, checking car numbers and hand brakes while walking along the dock. The Conductor engaged an Inland Container Maintenance Employee in a conversation concerning the malfunctioning machine. The Utility Employee returned from checking the rail cars, and the Inland Container Maintenance Employee left to attend to his maintenance duties repairing the malfunctioning machine. Their switch list indicated that the second and fourth cars from the north end were to be pulled from the facility for shipment. The other three rail cars were to be respotted. While they were checking the rail cars, however, the Utility Employee and Conductor noted that the third car from the north end had a shipment seal in place, and the Conductor called the clerk at Whitner Yard to determine if this rail car could be pulled for shipment since it would save them a switch. The Clerk informed the Conductor that the rail car was still listed as a respot. The Conductor checked with the Utility Employee to determine if he was ready to pull the rail cars from the plant. The Utility Employee indicated he was ready to make the move. The Conductor instructed the Engineer to pull the rail cars out of the plant.

The weather at the time of the accident was clear, with a temperature of 741 F.

THE ACCIDENT

The Conductor indicated that he and the Utility Employee were walking out of the plant along the platform to get in the company vehicle. The Conductor was approximately six feet behind the Utility Employee when the Utility Employee tripped or stumbled on something, possibly the dock board, and fell toward the moving rail cars. The Conductor saw the Utility Employee reach up to grab something to break his fall. Evidence indicates he grabbed the handhold on the side

ladder of one of the rail cars and before he could regain control of his footing, he was pulled along by the forward movement of the rail cars until he was pulled between the rail cars and the handrail structure at the north end of the platform.

The Inland Container Maintenance Employee's story was different. He indicated that he was attending to his duties repairing the malfunctioning shredding machine after his discussions with the Conductor. He stated that after he heard the locomotive engine rev up, he looked around and saw the Utility Employee riding the rail cars, which had just begun to move. He stated that the Utility Employee was riding on the south end rail car ladder of the first or second car from the locomotive, and waved to him as they had been friends for a number of years. He indicated that the Utility Employee returned the wave with his left hand. At this time, he returned to his maintenance duties.

A few seconds later, he heard a scream and immediately looked up toward the rail cars, where he saw the Utility Employee being rolled between the cars and the handrail structure at the end of the platform. He stated that he did not see the Conductor on the platform.

The Conductor stopped the movement of the train with a radio communication to the Engineer. He stated that he had waited until he thought the Utility Employee would be rolled beyond the handrail, as he thought that would be better than having him caught between the rail car and the handrail structure. The Conductor indicated that he ran down the steps and was at the bottom of the steps when the Utility Employee was ejected from between the rail car and the handrail. The Inland Container employee indicated that he immediately responded to the scene at the bottom of the platform steps, and the Conductor was already there. The Engineer indicated he was looking in the direction of movement after the Conductor told him to pull the rail cars out of the plant, but turned around when the Conductor told him to stop, as that was not a usual occurrence. The Engineer indicated that he saw the Utility Employee when he fell from between the rail cars and the handrail.

The Conductor indicated that although the Utility Employee was in a great deal of pain, he was talking and actually trying to get up. Those present convinced him to lie still. The Inland Container employee went to a phone to summon EMS. EMS personnel arrived in about 10 minutes. They arrived at the University of Louisville Hospital at approximately 3:30 a.m., and the Utility Employee was taken immediately to a treatment room.

The Utility Employee was diagnosed with a severely dislocated pelvis and two broken ribs. Subsequent examination revealed a fractured vertebrae. Initially, a non-invasive procedure was attempted to relocate the pelvis into the socket. When this failed, surgery was performed and the pelvis was relocated. Although the injuries were serious, they were not considered life-threatening. After two weeks of treatment, his injuries were healing as expected, and the Utility Employee was scheduled to be discharged from the hospital to a rehabilitation unit as soon as a room was available. At this time, he was walking without assistance for short distances. However, on July 15, 1998 at approximately 1:56 p.m., he collapsed and subsequently died. The

Jefferson County Coroner determined the cause of death to be cardiopulmonary arrest, probable pulmonary embolus, and multiple injuries.

POST-ACCIDENT INVESTIGATION

A 2-week period had elapsed between the time of the accident and the Utility Employee's death. An inspection of the area in question was conducted shortly after the accident. Interview and witness statements were solicited from all parties involved in the accident. Information gleaned by other parties involved in the investigation was also perused for any pertinent facts. The railroad performed a mechanical inspection of the rail cars involved, with no exceptions taken to the condition of the rail cars or the safety appliances. The event recorder tapes of the locomotive used during the accident were removed and found to be defective. The radio voice recording tapes were checked by the railroad, but the one frequency utilized by the switcher was not one normally recorded. There were no samples collected for toxicological testing. Immediately following the event, carrier officials returned to the site and attempted to recreate the series of events leading up to the accident. Inland Container officials forced the railroad officials to terminate their investigation and leave the property. The railroad officials then terminated switching service until they were allowed to complete their investigation. Inland Container relented and allowed the railroad to complete physical examination of the property, but would not allow questioning of any company witnesses. Questioning of the Inland Container employee by railroad officials was accomplished through the company attorney. FRA was allowed to question the Inland Container employee with the company attorney in attendance.

The handrail structure with which the Utility Employee became entangled was erected by the Inland Container Company. The switching agreement with the railroad required that prior to placing any structure which would interfere with the movement of rail traffic or create a close clearance hazard for railroad personnel, the railroad must be notified and assess the structure for potential hazards to railroad equipment and personnel. This was not done. However, the structure had been in place for approximately four months and was familiar to the crew members who switched the facility almost every night.

The Utility Employee and the Inland Container Maintenance Employee were old school buddies and had been friends for over 50 years. The Engineer repeatedly indicated he could not remember the course of events or the location of crew members on the night in question. The only thing that he could remember with any certainty was the Conductor telling him to pull the cars out of the plant, then telling him to stop. He turned around just in time to see the Utility Employee being ejected from between the rail car and the handrail. He was approximately three car lengths away on the inside of the curve at the controls of the locomotive.

Subsequent to the railroad officials' initial investigation, they investigated further the Conductor's account by recreation of the events according to the Conductor. The officials identified a number of inconsistencies in his story, as supported by physical evidence. As a result of the findings of the hearing, the Conductor was terminated from the service of the railroad. It appears there was enough evidence to convince railroad officials that the Conductor's statement concerning the events had been modified to serve some purpose other than the truth.

Also, the Inland Container employee's version of the placement of the crew members on the train more closely matched the evidence from the post-accident investigation.

The Conductor stated that he looked back to the platform after the Utility Employee had been rolled and noted that the dock plate where the Utility Employee could possibly have tripped was still tipped upright. Investigators attempted to initiate this tipping action by standing on and jumping up and down on this dock plate. During questioning of the Inland Container employee, accident investigators and the Inland Container attorney attempted to recreate the events. They attempted to instigate a tip-over of the dock plate, but they could barely get the dock plate to move, much less tip up and over. The dock plate weighed approximately 600 pounds.

The only positive conclusion which can be drawn from the evidence and the statements of the eyewitnesses is that the Utility Employee had failed to avoid the close clearance hazard between the moving rail cars and the handrail structure on the platform.

APPLICABLE RULES

Operating Rule M

Some platforms, bridges and other structures, switch stands, and tunnels will not clear a person on the top or side of a car or engine. Employees must become familiar with these and other places and protect themselves from injury.

Operating Rule GR-13(a)

Employees must not ride on the close-clearance side, between, or on the leading end of equipment moving adjacent to the platform, building, or close clearance structure."

Operating Rule 103(e)

Switching must be performed promptly and efficiently and in a manner that will avoid personal injury, damage to lading, equipment, structures, or other property.

Safety Rule 1080

Employees must not ride the sill (end) platform or brake platform of cars when it places them between moving equipment, except when it is necessary to operate the hand brake.